ECE/PHY 850 Electrodynamics of Plasma
Spring 2022

Instructor: Peng Zhang
Room 3213 EB
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(Note: email is the preferred contact and I will reply to all emails within 48 hours)

Place: Section 001: In person, Holden Hall C131
Section 730: Online synchronous
Zoom: https://msu.zoom.us/j/98170769605
Meeting ID: 981 7076 9605
Passcode: 728007

First three weeks: 1/10/2022 – 1/28/2022 (may be extended per university policy)
All Sections are Online synchronous,
Zoom: https://msu.zoom.us/j/98170769605
Meeting ID: 981 7076 9605
Passcode: 728007
(This link is for Office hours, and for Exams in Section 730)

Schedule: Tu Th 10:20 AM – 11:40 AM
Office Hours: Tu Th 2:30-3:30pm for both ECE850 Section 001 and Section 730, Online
Recommended: ECE 835 or PHY 488
Course Website: D2L https://d2l.msu.edu/

Course Outline:

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<td>Single Charge Particle Motion</td>
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<td>Plasma Kinetic Theory</td>
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<td>Macroscopic Transport Equations</td>
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<td>Plasma Conductivity and Diffusion</td>
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<td>Waves in Plasmas</td>
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Textbook: J. A. Bittencourt, Fundamental of Plasma Physics, Third Edition
Reference books: Francis F. Chen, Introduction to Plasma Physics and Controlled Fusion
Paul M. Bellan, Fundamentals of Plasma Physics

Course Requirements:

- Internet connection (DSL, LAN, or cable connection desirable)
- Access to Desire2Learn (D2L), or other delivery platform.
- Ability to scan and upload homework and exams (e.g. CamScanner or Adobe Scanner app)

If you do not have the necessary technology and/or equipment to adequately address the above requirements, the College of Engineering will make every attempt to assist you in obtaining access by loaning this technology for use during the semester. Please be aware that supplies are limited, and we may not be able to fulfill all requests. If you need assistance securing technology (laptops, tablets, web cams, hotspots), please contact Theodore Caldwell, Assistant Dean for Equity and Inclusion, by email at tc@msu.edu.

Class Recordings

Each class session of this course will be recorded. The recordings will be available to students registered for this class in Section 730 (and also in Section 001 when any lecture is conducted online). This is intended to supplement the online classroom experience. Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Recordings may not be reproduced, shared with those not in the class, or uploaded to other online environments. Doing so may result in disciplinary action. If the instructor or another University office plan other uses for the recordings beyond this class, students identifiable in the recordings will be notified to request consent prior to such use.

Grading:

Points are distributed as follows:

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<tr>
<th>Homework</th>
<th>Exam 1</th>
<th>Exam 2</th>
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<tr>
<td>15%</td>
<td>25% each</td>
<td>35%</td>
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Exam Schedule:  
- Exam 1: Thursday, Mar 3, 2022  
- Exam 2: Tuesday, Apr 12, 2022  
- Final Exam: Friday, 5/6/2022 (7:45AM-9:45AM)

Exam locations:  
- Section 001: Holden Hall C131  
- Section 730: online synchronous

The exams are closed book, but a page of formula sheet is allowed.

**Zoom proctoring:** Students are required to leave the webcams or phone cameras on during exams. Proctoring may be recorded and the recordings will be deleted after review.

Homework assignments can be found on the course web page, and will be announced in class.

**All the homework assignments for this course will be submitted electronically through D2L.**

**Exams for Section 001 will be submitted in person.**

**Exams for Section 730 will be submitted electronically through D2L.**